2009 Annual Group Monitoring Results

and

2009 Spartina Eradication Monitoring Results

For

Herbicide Applications to Freshwater Emergent Noxious and Quarantine Weeds performed under the Noxious Weed National Pollutant Discharge Elimination System (NPDES) Permit

Prepared by

Washington State Department of Agriculture

February 2010

Overview

This monitoring report is required under the Noxious Weed National Pollutant Discharge Elimination System (NPDES) Waste Discharge General Permit for freshwater emergent plants listed on the Washington State Noxious Weed List or the Washington State Noxious Weed Seed and Plant Quarantine List. Based on a 9th Circuit court decision, the Washington Department of Ecology (DOE) determined that NPDES permits are required for the application of pesticides to "waters of the state" in Washington State.

Annual Group Monitoring

In consultation with DOE, WSDA agreed not to collect water samples at aquatic sites where glyphosate and/or imazapyr were used to treat freshwater emergent noxious or quarantine list weeds were treated in 2009. WSDA planned to sample one site for Triclopyr in 2009; however this was not accomplished.

Over the life of NPDES Permit Number WAG-993000 the Washington State Department of Agriculture (WSDA) has sampled representative sites where various methods of applications were used to treat different noxious or quarantine list weeds at different types of locations. The concentration and transport of pesticides after application, relative pesticide persistence in the water column, and target plant species were recorded.

Table 1 is the summary of the historical data. All concentration units are parts per billion. Samples were taken at sites where knotweed, parrotfeather, water lily, purple loosestrife, garden loosestrife, or yellow flag iris were treated. Sites were located at lakes, rivers, creeks, gravel bars, islands, and riparian areas. WSDA selected locations where different application methods and equipment were used.

Water samples were analyzed for the presence of glyphosate, imazapyr, or triclopyr. In cases where herbicide was detected in the water samples, the concentrations were less than the maximum allowable concentrations as outlined in Environmental Protection Agency drinking water standards.

Table 1. ***Summary of water sample analysis for herbicide concentrations.***

Application Equipment	Analyte	Site	County	Target Plant(s)	Pre-treat (ppb)	1 hour post-treat (ppb)	24 hours post-treat (ppb)
backpack	glyphosate	Yakima River	Yakima	Parrotfeather	ND	343	53
boat mounted spray-tank	glyphosate	Chehalis River	Grays Harbor	Purple loosestrife	ND	ND	ND
backpack	glyphosate	Spring Lake	King	Water lily, Yellow flag iris, Purple loosestrife	ND	30	ND
backpack	glyphosate	Spring Lake	King	Water lily, Yellow flag iris, Purple loosestrife	ND	120	ND
backpack	glyphosate	Cottage Creek	King	Purple loosestrife	ND	ND	ND
backpack	glyphosate	Yakima River	Yakima	Purple loosestrife	ND	ND	ND
boat mounted spray-tank	glyphosate	Spring Lake	King	Yellow flag iris	ND	50	ND
backpack	imazapyr	Naches River	Yakima	Knotweed	ND	ND	ND
boat mounted spray-tank	triclopyr	Foster Island	King	Garden loosestrife	ND	3.6	2.6
pressurized spray-tank	imazapyr	Willapa River	Pacific	Knotweed	ND	ND	2.2
injection	glyphosate	Little Creek	Skamania	Knotweed	ND	50	10
injection	glyphosate	Washougal River	Skamania	Knotweed	ND	12.1	3.8
backpack	imazapyr	Willapa River, Trap Creek	Pacific	Knotweed	ND	ND	ND
injection	glyphosate	Newaukum River	Lewis	Knotweed	ND	ND	ND
backpack	imazapyr	Buena Creek	Yakima	Yellow flag iris	ND	205	ND
injection	glyphosate	Big River	Clallam	Knotweed	Not available	ND	11
boat mounted spray-tank	triclopyr	Borst Lake	King	Purple loosestrife	ND	27.4	0.8
injection	glyphosate	Canyon Creek	Skamania	Knotweed	ND	ND	ND
injection	glyphosate	Big River	Clallam	Knotweed	ND	ND	ND

ND = not detected
ppb = parts per billion

Spartina Eradication Monitoring

In consultation with DOE, WSDA submitted a monitoring plan for the 2009 Spartina eradication season that would address herbicide residue in sediment. The following treatment regimes were slated for sampling and testing with the goal of;

- Determining the amount of imazapyr and glyphosate residue in the sediments at a *Spartina* control site with multiple years (2006 and 2007) of aerial application of herbicide and subsequent ground treatments.

- Determining the amount of imazapyr and glyphosate residue in the sediments at a *Spartina* control site with one year of aerial application of herbicide in 2006 and subsequent ground treatments.

- Determining the amount of imazapyr and glyphosate residue in the sediments at a *Spartina* control site with multiple years of ground application.

- Determining the amount of imazapyr and glyphosate residue in the sediments at a site that has not been treated for *Spartina* utilizing herbicide since 2007.

No monitoring activity was carried out under the 2009 Spartina monitoring plan.

Signatory Page

I certify under penalty of law, that this document and all attachments were prepared under my direction, or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiries of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

12 Feb 2010

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